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Revolving Door

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a revolving door comprising an outer stationary cylindrical wall having two doorways and a revolving device arranged within the surrounding cylindrical wall and comprising several revolving door leaves, wherein at least one of the door leaves can be pivoted away from the basic position for providing an emergency exit, and wherein this door leaf in its basic position relative to the revolving device can be fixed by a fixation device.

Carousel revolving doors are known. In addition to the manually actuated carousel revolving doors, revolving doors comprising an electric motor drive are also known, in particular, those comprising a completely automated microprocessor-controlled drive system. The present invention is based on a carousel revolving door of the latter type.

2. Discussion of the Related Art

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SUMMARY OF THE INVENTION

Based on this, the invention has the object to provide a revolving door with an improved fixation device for the pivotable door leaves.

The technical solution of this object is characterized by two claws provided as the fixation device, which in the basic position of the door leaf secure between them an edge of the door leaf and which, for releasing the door leaf, can be opened.

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In principle, it is conceivable that the two claws are transferred into an open position. One embodiment suggests, however, that one claw is a stationary stop and only the other claw can be opened for releasing the door leaf.

Even though it is conceivable to move the two claws linearly for a transfer into an open position, according to another embodiment it is suggested that the claw for opening (and, in reverse, for closing) is pivotable. This can be realized technically in a simple way by a corresponding rotating or pivoting mechanism. In particular, it is also possible in this way to perform the opening movement without use of a special drive which will be explained in the following.

The further development of this embodiment has the advantage that, by employing a double lever, the claw can be pivoted without problem, i.e., can be transferred into the opening position and, in reverse, into the closing position. The two lever arms of the double lever are arranged on opposed sides of the pivot axis. The double lever can be in an effective connection with a special pivot device via its free lever arms, for example, with an electric motor or with a pneumatic or hydraulic device.

The preferred technical realization is however suggested by an embodiment where no special pivot mechanism engages the double lever. The basic idea resides in that in the fixation position of the door leaf the double lever is secured by the solenoid and, in this way, the door leaf is secured between the two claws. In an emergency situation, the voltage supplied to the solenoid is interrupted so that the double lever with its claw is freely pivotable and the claw can be transferred into the opening position upon pivoting the door leaf. The solenoid is again arranged on the revolving frame.

Another embodiment has the advantage that, as a result of the own gravity of the double

lever, the claw is secured safely in the open position. This open position is achieved when, after a certain initial pivot movement, a position has been surpassed whereupon the double lever falls by itself into the open position. Accordingly, the door leaf to be pivoted is released suddenly.

The further development of this embodiment has the advantage that upon pivoting back of the door leaf into the basic position the double lever with the claw is again transferred synchronously into its fixation position without this requiring a special adjusting drive. In this situation, the solenoid is then again supplied with voltage so that the double lever is secured in its fixation position.

Another embodiment has the advantage that with the additional spring device, despite the solenoid not being supplied with current, a possible residual magnetism is overcome and, in this way, the door leaf to be pivoted is released instantly.

Another embodiment has finally the advantage that the fixation device with the two claws and the solenoid can be arranged in the roof area of the revolving frame.

BRIEF DESCRIPTION OF THE DRAWINGS

One embodiment of a revolving door according to the invention will be explained in the following with the aid of the drawings. It is shown in:

Fig. 1 — a schematic end view of the revolving door;

Figs. 2a and 2b — a schematic plan view onto the revolving door in Fig. 1 with the door leaves in the basic position as well as in the pivot position;

Fig. 3 — a plan view onto the revolving device of the revolving door;

Fig. 4 a plan view onto the fixation device;

Figs. 5a and 5b a side view of this fixation device in the closed and the open state of the claws.

DESCRIPTION OF PREFERRED EMBODIMENTS